

**2677**

**SILO 3 REMOVAL ACTION SCOPE OF WORK**

**12-17-91**

**WEMCO/DOE**

**WEMCO:P:91-957**

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**LETTER**

Westinghouse  
Environmental Management  
Company of Ohio

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WEMCO:P:91-957  
December 17, 1991

Mr. R. E. Tiller, Manager  
Fernald Office  
U. S. Department of Energy  
P. O. Box 398705  
Cincinnati, Ohio 45239-8705

Dear Mr. Tiller:

**SIL0 3 REMOVAL ACTION SCOPE OF WORK**

Reference: DOE-515-91, R. E. Tiller to W. H. Britton, "Silo 3 Removal  
Action - Action Memorandum", dated December 13, 1991

This letter transmits, by attachment, the scope of work for implementation of the Silo 3 Removal Action. The scope of work was prepared by RUST Engineering and reviewed by the Silo 3 Removal Action Project Team. The required project documentation, including the safety documents, are currently being developed based on the attached scope of work.

If you have any questions, our point of contact is D. A. Nixon, ext. 6590.

Very truly yours,

  
W. H. Britton, President

LAH:lem

Attachment

c:	R. B. Allen, DOE-FO	S. A. Radabaugh
	L. C. Bogar	R. C. Worsley
	J. R. Craig, DOE-FO	
	D. Edwards	AR File
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	R. M. Nichols, RUST	
	D. A. Nixon	

### SILO 3 DUST COLLECTOR STABILIZATION AND DEMOLITION

The scope of this work plan will be to detail the work activities for the stabilization, removal and demolition of the dust collector on top of Silo 3 along with associated piping, electrical and structural steel.

#### ACCESSING EQUIPMENT ON SILO 3

Although independent studies indicate that the loading capability of Silo 3 can with stand one hundred pounds per square foot (100 Lb. per sq./ft.) throughout the dome surface, field work practices will involve considering the top twenty foot (20 ft.) diameter section of the silo dome as having no structural integrity.

The method used to access the dust collector and hopper section, which is located in the center of the twenty foot (20 ft.) exclusion area, will require the use of two (2) twenty four foot (24 ft.) long by fourteen inch (14 in.) wide aluminum staging boards. These will have a five hundred pound (500 Lb.) capacity and will be employed in a parallel fashion to gain access to the base of the hopper section. These staging boards will bridge over the twenty foot exclusion area and will be supported on each end with a frame support. This frame support will have a base designed so that it spreads the load of the bridging system below the one hundred pound per square foot maximum requirement.

Three persons will only be allowed on Silo 3 at any one time. At no time will the total live loads exceed seven hundred pounds (700 lbs.). Personnel on the silo shall be required to wear fall protection and be tied off to the hand rail when working next to the hand rail or a live line when leaving the perimeter hand rail.

Protective clothing requirements will be dictated by the radiation technicians and the Site Specific Health and Safety Plan.

#### STABILIZING THE DUST COLLECTOR HOPPER SECTION

The first step will be to stabilize the hopper section of the dust collector which has experienced gross deterioration of the side walls and is considered very fragile. NOTE: Extreme caution is to be taken while working around the hopper section to avoid any contact with the hopper side walls! This hopper section is located under the main body of the dust collector and is a four sided sheet metal transition piece to the rotary feeder valve. The west side of the hopper section has a hole approximately one square foot in diameter exposing waste material to the elements. The three remaining sides have minor openings and are considered just as fragile.

The exposed material will be vacuumed out through the opening in the west side. A HEPA vacuum with a knockout drum will be utilized to contain the material. Once the material has been removed to the maximum extent possible, the remaining cavity just above the rotary feeder valve will be filled with polyurethane foam. This will provide a seal when the hopper is cut just above the rotary feeder valve flange.

The method used to stabilize and contain the hopper section for demolition will incorporate a cable and chain suspension system along with expanded metal and polyurethane foam.

A 1/4" cable will be used from each of the four corner legs down to a chain collar just above the rotary feeder valve. This will naturally hang in the same configuration as the side walls of the hopper walls. A horizontal cable will be connected between the legs, just under the main support steel frame at the top of the hopper. An intermediate cable will be suspended from the mid-point of this horizontal cable down to the chain collar. This will be done on all four sides. Light gauge expanded metal sheeting will be cut to the same configuration as the side wall of the hopper and attached on the inside of the cable suspension system with the use of tie wrap connectors. The expanded metal will have optimal three inch (3") hand holes cut in various location for access for foam application. Once the expanded metal panels have been installed, polyurethane foam will be applied to fill the void between the hopper side wall and the expanded metal/suspension system.

#### DEMOLITION OF ASSOCIATED PIPING, ELECTRICAL AND STRUCTURAL STEEL

The next step after the hopper section has been stabilized will be to demolish all associated piping, electrical and structural surrounding the dust collector. All components will be size reduced when practiced on top of the silo, wrapped in plastic, lowered by a crane and loaded into white metal boxes at a staging area on the ground.

NOTE: Primary means for cutting will be done by mechanical methods. Burning and welding may only be done if no other means are available and must be approved by RUST Safety and applicable permitting requirements.

#### REMOVAL AND DEMOLITION OF THE DUST COLLECTOR HOUSING

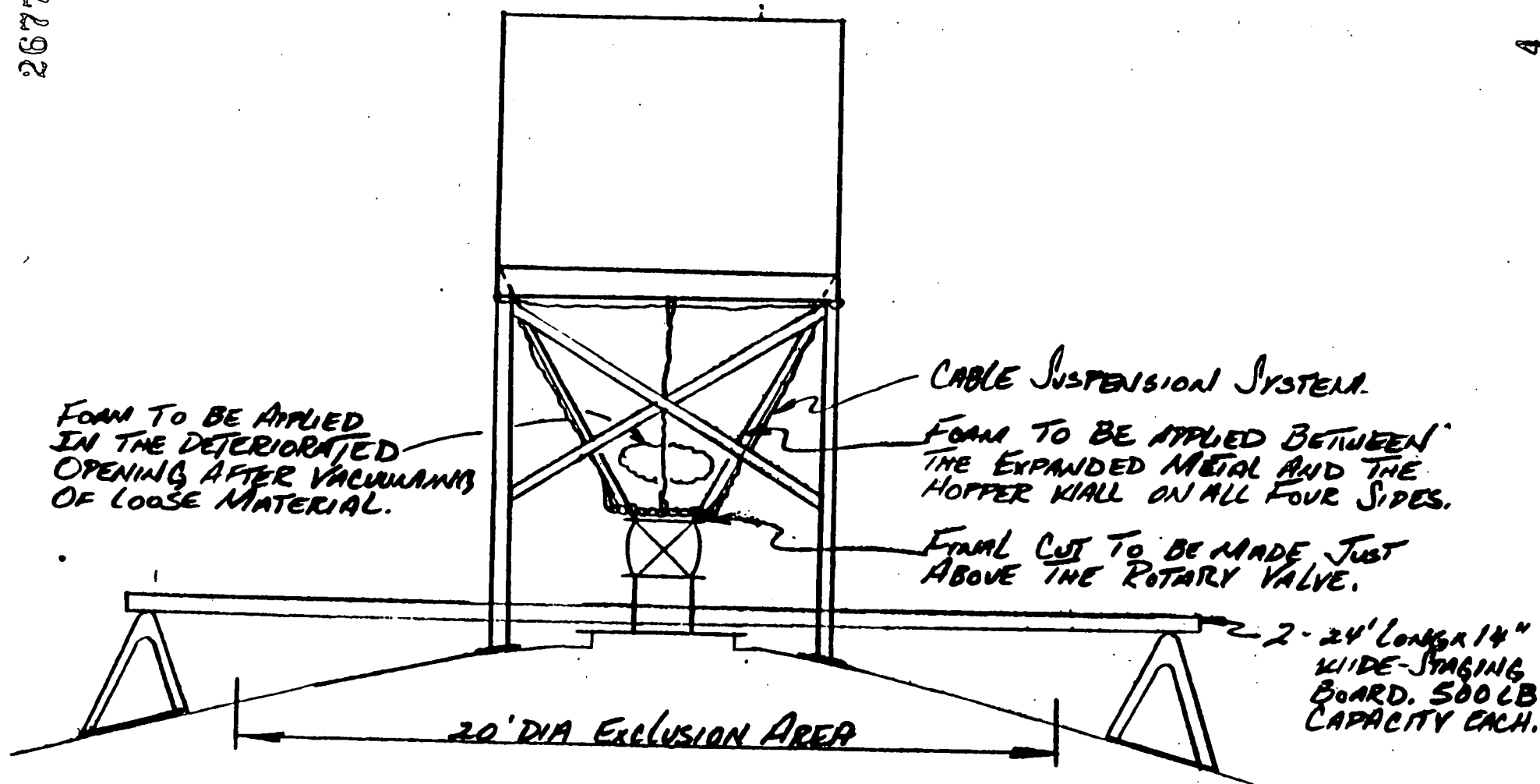
Once the remainder of the piping, electrical and structural is removed, then the dust collector will be detached from the top of the silo and hoisted down and placed into a temporary enclosure north of Silo 3 where it will be decontaminated, size reduced and loaded into white metal boxes.

A specific hoisting and rigging plan will be developed for the removal of the dust collector from the silo into the temporary enclosure.

All openings on the silo surface will be closed and sealed with gasketed steel plates and C-clamps.

2677

# Silo-3 Dust Collector



NOT TO SCALE

R. NICHOLS  
Silo 3-SK-1  
16 DEC 91